



Diagnostic stability among patients readmitted with serious mental illnesses in a referral psychiatric university hospital in Tabriz, Iran, in 2016

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Abstract

Introduction: Regarding mental disorders, one of the important factors in the validity of clinical diagnosis is its consistency in consecutive evaluations. This varies from 29% in personality disorders to 70% in schizophrenia. This survey was conducted to study clinical diagnosis stability among readmitted patients in referral psychiatric university hospital.

Methods: In this study, 1000 records were evaluated retrospectively. Data were gathered by educated clinical psychologist with a prepared checklist. The checklist consisted of demographic data, clinical interview data, primary and final diagnosis, and process of care. The collected data were analyzed using SPSS software and presented as descriptive and proportion measures.

Results: The mean age of patients in the first hospitalization was 31.23 years. Since the first admission, 26.6% of patients' life time was spent in hospitals. The clinical diagnosis of cases at discharge was bipolar mood disorder I (BMD I) and schizophrenia in 49.5 and 40.4 percent of cases, respectively. Generally, concordance between admission and discharge diagnosis was 94.9 and 84.4 percent among the women and men, respectively. 66.0% of patients with BMD I and 71.4% of patients schizophrenia received the same diagnosis in at least 75% of their next hospital admissions. Furthermore, the prospective consistency was 80 and 60 percent in schizophrenia and BMD I, respectively.

Conclusion: The findings of the present study showed that in psychiatric studies, clinical diagnosis can be challenging especially in short term evaluations.

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Introduction

Psychiatric disorders are considered as one of the complicated issues in the health system. It is estimated that approximately 450 million individuals suffer from psychiatric disorders worldwide.¹ The National Survey of Drug Use and Health (NSDUH) defines serious mental illness (SMI) as an emotional or behavioral disorder (excluding developmental disorders and substance abuse) causing serious functional impairment based on Diagnostic

and Statistical Manual of Mental Disorders-4th Edition (DSM-IV) diagnostic criteria.²

In the twentieth century, two basic approaches including standard and structured interviews and the classification of mental disorders were used for measuring mental disorders. Two types of structured interviews (self-reported scales and questionnaires completed by clinicians) are used in psychiatry with no close agreements.^{3,4} International Classification of

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Diseases (ICD) and health related problems, as well as Diagnostic and Statistical Manual (DSM) of mental disorders were two major systems for classification of mental disorders. Similar to interviews models, the accordance between the two classification systems was not appropriate.⁵ Andrews et al. showed that the accordance rate between these two diagnostic approaches varied from 83% in depression to 33% in substance abuse; and averagely was 68% in the diagnosis of mental disorders.³ The stability of diagnosis over time is one of the most important factors in clinical diagnosis. However, as the clinical signs and the course of the disease change over time, patients with the same diagnosis on the first visit may be followed with different diagnosis with time.⁶ In a study by Baca-Garcia et al., diagnostic stability varied from 29% in personality disorder to 70% in schizophrenia.⁵ Various factors including changing clinical symptoms with time, comorbidities, various clinicians, and socioeconomic factors alter illness course and attitudes of care providers.^{1,8} Considering the frequent admission of patients with serious psychiatric disorders in the hospital and lack of diagnosis stability studies in this context, this study was conducted aiming to examine the diagnostic stability of these patients.

Methods

Patients hospitalized in a referral psychiatric hospital was included in this cross-sectional study. The data were collected retrospectively from patients' admission files. Each admission was considered as the study unit. Accordingly, a trained clinical psychologist evaluated all admissions by the prepared questionnaire. For preparation of the questionnaire, firstly, all of the standard patients' files were reviewed and all necessary variables were extracted. In expert panel session, the primary checklist was assessed and after revision, the final checklist was prepared.

According to the records of medical records unit, hospital discharges were retrospectively selected from January 2016

and the questionnaire was filled out for each case. Given the importance of diagnostic stability in the present study, the sample size for this variable was determined to be 1000 cases of hospitalizations by taking into account the ratio of 0.3 and $\alpha = 0.05$.

The study inclusion criteria were as follows: admission files with diagnosis of schizophrenia, schizoaffective, bipolar disorders and resistant depression. In addition, the exclusion criteria included the patients with the final diagnosis of unserious psychiatric disorder and patients discharged based on their consent. Hospital stay ratio was obtained from dividing total hospitalization days to total days between first admission and last discharge. Diagnostic stability was defined as degree of agreement between consecutive admissions of patients with psychiatric disorders in the hospital. In the present study, three indicators of diagnosis stability explained by Baca-Garcia et al.⁵ were used:

1. Prospective consistency: the ratio of patients retained on the first diagnosis
2. Retrospective consistency: the proportion of last diagnosis that was the same as the first diagnosis
3. Proportion of patients who received the same diagnosis in at least 75% of the evaluations

As medical records were used in the present study, no particular ethical concern was stated. The names of the patients have not been reported in order to uphold the principles of secrecy.

The collected data were analyzed using SPSS (version 17, SPSS Inc., Chicago, IL, USA). Descriptive statistics were considered for each variable and the variables were analyzed based on gender and age groups.

Results

In this study, 1000 cases of hospitalization related to 143 patients, were studied. Of these cases, 102 cases were included based on the inclusion criteria. The average ages of men and women were 39.16 and 40.8 years, respectively. At the time of admission,

31.50% and 6.16% of patients were married and illiterate, respectively. Taking into account the housekeeping as an occupation for women, 49.4% of patients admitted in the hospital were employed. 45.6% and 73.0% of the participants were men and women, respectively. There was statistically significant difference between men and women in terms of employment ($P < 0.001$).

The mean ratio of hospital stay was 26.6% (21.5%-31.6%) and its median was 16.4% (33.4% and 15.9% among men and women, respectively). There was a significant difference between men and women in the ratio of hospital stay ($P = 0.001$). The mean age of participants at first hospitalization was 31.23 years (28.68-33.78). No significant difference was found in usage of social welfare services between men and women (80.4% and 75.2% for men and women, respectively). A history of legal problems was found among 37.5% and 17.0% of men and women, respectively. In 49.5% and 40.4% of hospitalizations, the discharge diagnosis was bipolar disorder I and schizophrenia, respectively (Table 1).

43.8% and 9.4% of the studied cases with schizoaffective diagnosis at admission changed to schizophrenia and BMD I, respectively. Moreover, 91.8% and 93.7% of patients with BMD I and schizophrenia at admission had the same diagnosis at discharge, respectively. The rate of patients who received the same diagnosis in at least 75% of the admissions was 66.0% and 71.4% in BMD I and schizophrenia, respectively. Furthermore, the prospective consistency was 80% and 60% in schizophrenia and BMD I, respectively. As shown in table 2, concordance between admission and

discharge diagnosis was 84.4 and 94.9 among men and women, respectively (Table 3).

Table 1. Comparison of admission and discharge diagnosis (n = 102)

Clinical diagnosis		n (%)
At admission	BMD I	477 (47.7)
	schizophrenia	314 (31.4)
	schizoaffective	32 (3.2)
	SRD	32 (3.2)
	MDD	18 (1.8)
	Other psychotic disorders	48 (4.8)
	Other mood disorders	36 (3.6)
	Other mental disorders	26 (2.6)
	Not registered	17 (1.7)
	At discharge	BMD I
schizophrenia		404 (40.4)
schizoaffective		14 (1.4)
SRD		32 (3.2)
MDD		12 (1.2)
Other psychotic disorders		0 (0)
Other mood disorders		0 (0)
Other mental disorders		29 (2.9)
Not registered		14 (1.4)

BMD I: Bipolar mood disorder I; SRD: Substance-related disorder; MDD: Major depressive disorder

The cases in the first and the last diagnosis of schizophrenia accounted for 50 and 56 subjects, respectively. In addition, these values were 35 and 32 for respectively the first and the last diagnosis of BPD I. Moreover, the prospective and retrospective consistency of schizophrenia was 80.0% and 71.4%, respectively. Furthermore, these values were 60.0% and 65.6% for respectively the prospective and retrospective consistency of BPD I.

Discussion

This study was conducted on patients with serious psychiatric disorders admitted to a psychiatric center. In this study, the admitted patients spent 26.6% of their life days from the first admission in the hospital wards.

Table 2. Comparison of concordance between admission and discharge diagnosis (n = 102)

Discharge diagnosis	Men	Women	Total	P
	n (%)	n (%)	n (%)	
Schizoaffective	3 (15.0)	11 (91.7)	14 (43.8)	0.005
Schizophrenia	206 (92.0)	83 (94.3)	292 (92.7)	0.326
BMD I	232 (87.9)	203 (97.1)	437 (92.0)	0.005
SRD	18 (78.3)	9 (100)	27 (84.3)	0.167
MDD	8 (53.3)	2 (66.7)	10 (55.6)	0.588

BMD I: Bipolar mood disorder I; SRD: Substance-related disorder; MDD: Major depressive disorder

According to the National Institute of Mental Health Research (NIMH), a woman patient with BMD I spends 12 years of her life in episodes of the disease and she loses 14 and 9 years of her productivity life and general life, respectively. Prospective studies and weekly reviews of this institute showed that patients with BMD I spend 47% of their lives as mostly subclinical patients.⁹

In general, the accordance ratio of admission diagnosis to the discharge diagnosis was 94.9% and 84.4% among women and men with 318 and 497 cases of hospitalization, respectively ($P < 0.005$). The accordance ratio in this study was higher than the study by Atwoli et al. indicating that the prospective diagnostic stability among patients admitted in an academic medical center in Kenya was 72.8%.¹⁰ In their 6 and 24-month assessment, Schwartz et al. reported the diagnostic stability of 92%, 83%, 74%, and 36% for schizophrenia, BMD I, MDD, and schizoaffective disorder, respectively.¹² The results of the present study revealed that 80% of patients with schizophrenia had diagnostic stability over time. This difference can be due to the low sample size as well as long duration of the study. Short-term evaluations, with limited information, endanger the diagnosis process in psychiatric disorders. These limitations could be minimized using diagnostic criteria, structured scales, and also the short-term observations.^{11,12}

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Conclusion

The findings of the present study showed that in psychiatric studies, clinical diagnosis can be challenging, especially in short term evaluations. The interview setting can also affect the diagnostic stability. Other factors may be the lack of objective signs and changing providers of medical care over time, needing to be considered.

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Authors' Contribution

All of the authors contributed equally.

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Conflict of Interest

Authors have no conflict of interest.

Ethical Approval

This study was approved by the Regional Medical Ethics Committee of Tabriz University of Medical Sciences under the number 5/D/973186.

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